

A NEW GENUS OF AUSTRALIAN STONEFLIES (PLECOPTERA,
GRIPOPTERYGIDAE).

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(Text-figures 1-6.)

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Synopsis.

An early emerging species of stonefly from the subalpine streams of south-eastern Australia is placed in a new genus. The species shows affinity in the adult to the common genus *Trinotoperla* and in the nymph to the rare genus *Eunotoperla*. The nymph has an anal gill tuft quite unlike that of other genera of the family.

During the first week of September a large hatching of stoneflies was observed on the Eucumbene River, one of the subalpine streams of south-eastern Australia. There appeared to be three species in the hatch, a small, dark nemourid, a small thin species of *Leptoperla* with its characteristic long cerci, and a larger species of *Trinotoperla* or *Dinotoperla*. The latter two genera are difficult to distinguish by eye, but on size it appeared more likely to be a species of *Trinotoperla*. Closer examination of a sample revealed the presence of eight species of nemourids, three species of *Leptoperla*, one species of *Dinotoperla* and another species, the largest, which could without much difficulty be placed in *Trinotoperla*.

Cast nymphal exuviae corresponding in size with this species, as well as some smaller ones of *Leptoperla*, were collected. A few large fully developed nymphs were taken under debris (tree trunks) in the stream. Other smaller nymphs of several species of *Dinotoperla* and *Leptoperla* were abundant. The burrowing nymphs of the nemourids were not collected. There was no difficulty in associating the larger exuviae with the larger nymphs because of the most distinctive anal gills. A freshly emerged adult, still callow, and its associated exuvium leave no doubt about the association of nymph with adult. The hatch of this species was very heavy and the grassy banks bordering the lower ends of the runs of the stream were covered with adults. This may account for the relatively small number of observed nymphs of this species, though their preferred habitat may have been overlooked.

Whereas the adult is not unlike the species of *Trinotoperla*, the nymph is more like the nymph of *Eunotoperla*. A few nymphs collected on an earlier occasion were tentatively placed, as a second species, in *Eunotoperla*, while the adults were referred to a new species of *Trinotoperla*.

Adults of the species have been collected in very small numbers as late as the first week of December, but these may have been survivors from a much earlier hatch.

Family GRIPOPTERYGIDAE.

Genus *ALDIA*, gen. nov.

Genotype, *Aldia montana*, sp. nov.

Adult.—Similar to *Trinotoperla*, but differing in head shape and slightly in wing venation. Ocelli forming an almost equilateral triangle, the median ocellus distinctly smaller than the lateral ocelli; frons not clearly produced over the clypeus; Rs forked in both wings; CuA of forewing 2-branched, both branches long; in hindwing Rs and M fused for only a short distance at base.

Nymph.—Very similar to nymph of *Eunotoperla*, but with the anal gills distinctive. Anal gills reduced to less than 20, spaced, borne at the apex of a longer than wide stalk. Frons not produced over the clypeus; facial suture between eye and lateral ocellus straight or almost so; vertex of head with a few long hairs; lacinia rather truncate at apex, without distinct teeth; posterolateral margin of head rounded; prosternum not produced posterolaterally behind the fore coxa to form a rounded knob, trochanters without apical spine; femora and tibiae all with a marginal row of dense long hairs; cerci with a row of dense long hairs on upper surface, cerci about as long as antennae but not quite as thick; caudal margin of mesonotum convex; pronotum with rounded angles.

The hair-tufts on legs, head and cerci are not quite as well developed as in *Eunotoperla* and the mature nymph is considerably smaller.

ALDIA MONTANA, sp. nov. (Figures 1-6.)

Adult.—Length of body 11 to 14 mm., cerci about 2 mm., antenna 13 to 15 mm.; forewing and costal border of hindwing with a distinct fine mottling; hindwing slightly more infuscated than forewing; head and thorax dorsally mostly dark; antenna dark; legs mostly dark, middle and hind femora dorsally with a pale spot in the middle; abdomen mostly pale, apical three segments dark, but male genitalia pale; thoracic sternites mostly dark; male and female genitalia figured.

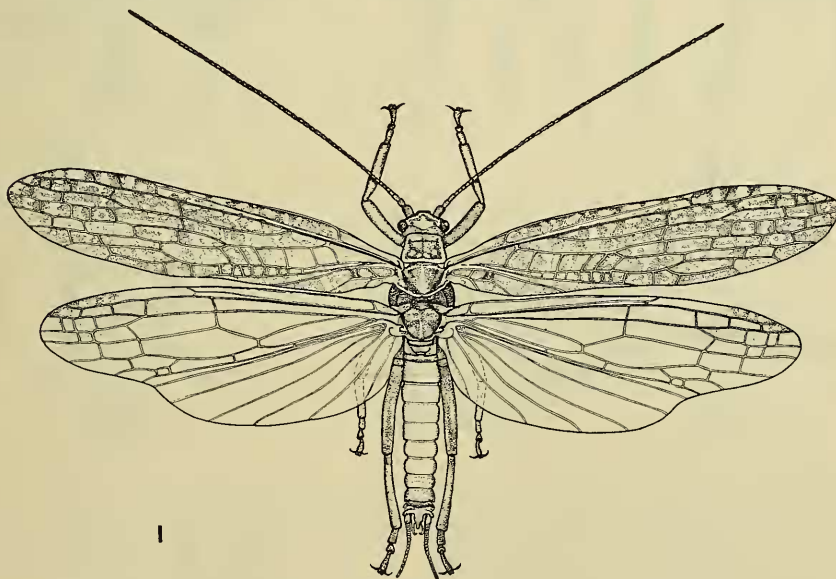
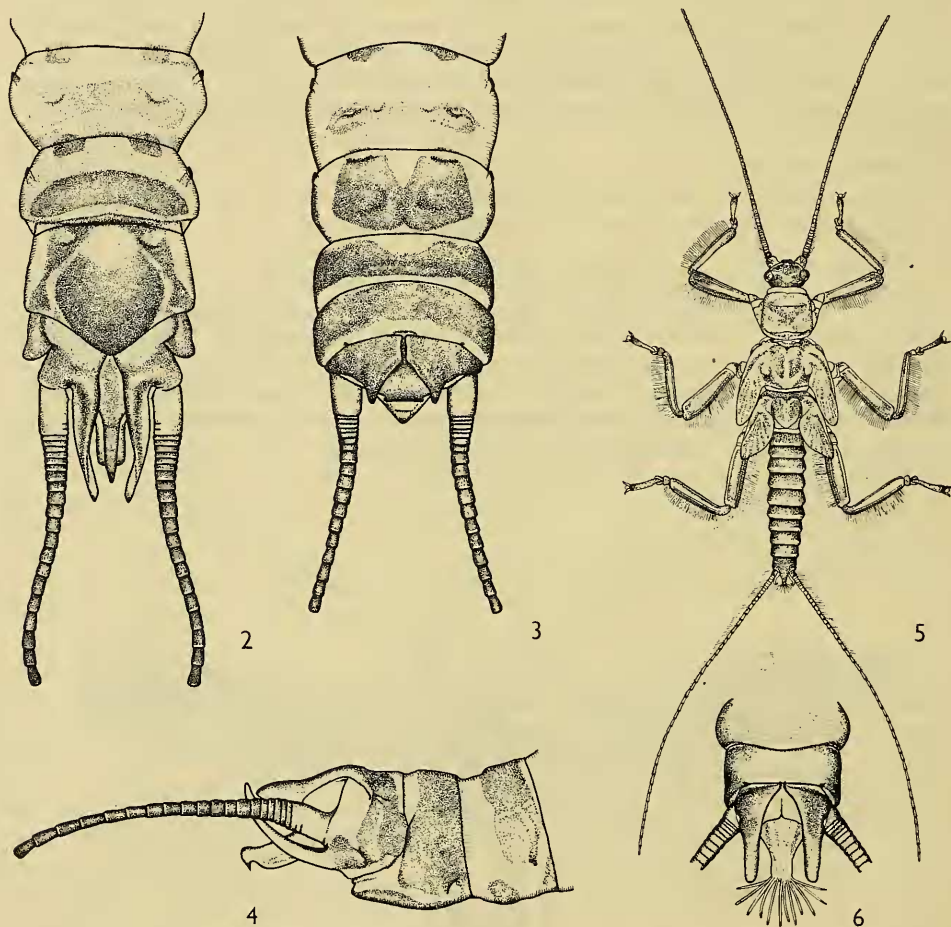


Figure 1. *Aldia montana*, gen. et. sp. nov. Adult male, $\times 4$.

Nymph.—Length of body of mature nymph 10.0 to 11.0 mm., antennae 10 mm., cerci 10 mm. Body above, rather dark, abdomen all dark except at joints; thorax patterned, pronotum mostly pale at meson and anterior margin, meso- and metanota pale at wing bases and caudal meson; head mostly dark, but pale at vertex at meson; cerci mostly pale, narrowly dark at apex of segments; legs with a pale spot on upper surface of middle and hind femora, tarsi dark at apex, but tarsal claws pale.

Eyes somewhat bulging, postocular region short, narrowing rapidly; ocelli of almost equal size; pronotum slightly narrower anteriorly than posteriorly; hair-fringes on femora about as wide as two-thirds width of femora; first segment of the tarsus from below clearly longer than wide, distinctly larger than second segment, apical segment from below only slightly longer than basal two segments combined.

Types.—Holotype male, allotype female, typical nymph, a long series of paratype males, 6 paratype females and a long series of nymphs and cast nymphal exuviae in spirit in the C.S.I.R.O., Division of Entomology Museum, Canberra.



Figures 2-6. *Aldia montana*, gen. et. sp. nov. 2, Male genitalia, ventral view, $\times 20$. 3, Female genitalia, ventral view, $\times 20$. 4, Male genitalia, side view, $\times 20$. 5, Mature male nymph, $\times c. 4$. 6, Apex of abdomen of mature female nymph, ventral view, $\times 20$.

Type Locality.—Eucumbene River, Kiandra, New South Wales (6th September, 1961, E. F. Riek and A. L. Dyce).

Adults have also been collected from the type locality during October, November and December, 1960.

In dried specimens the mottling of the wings is faint.